

(No Model.)

D. WILDE.
STEAM GENERATOR.

No. 275,449.

Patented Apr. 10, 1883.

Fig. 1.

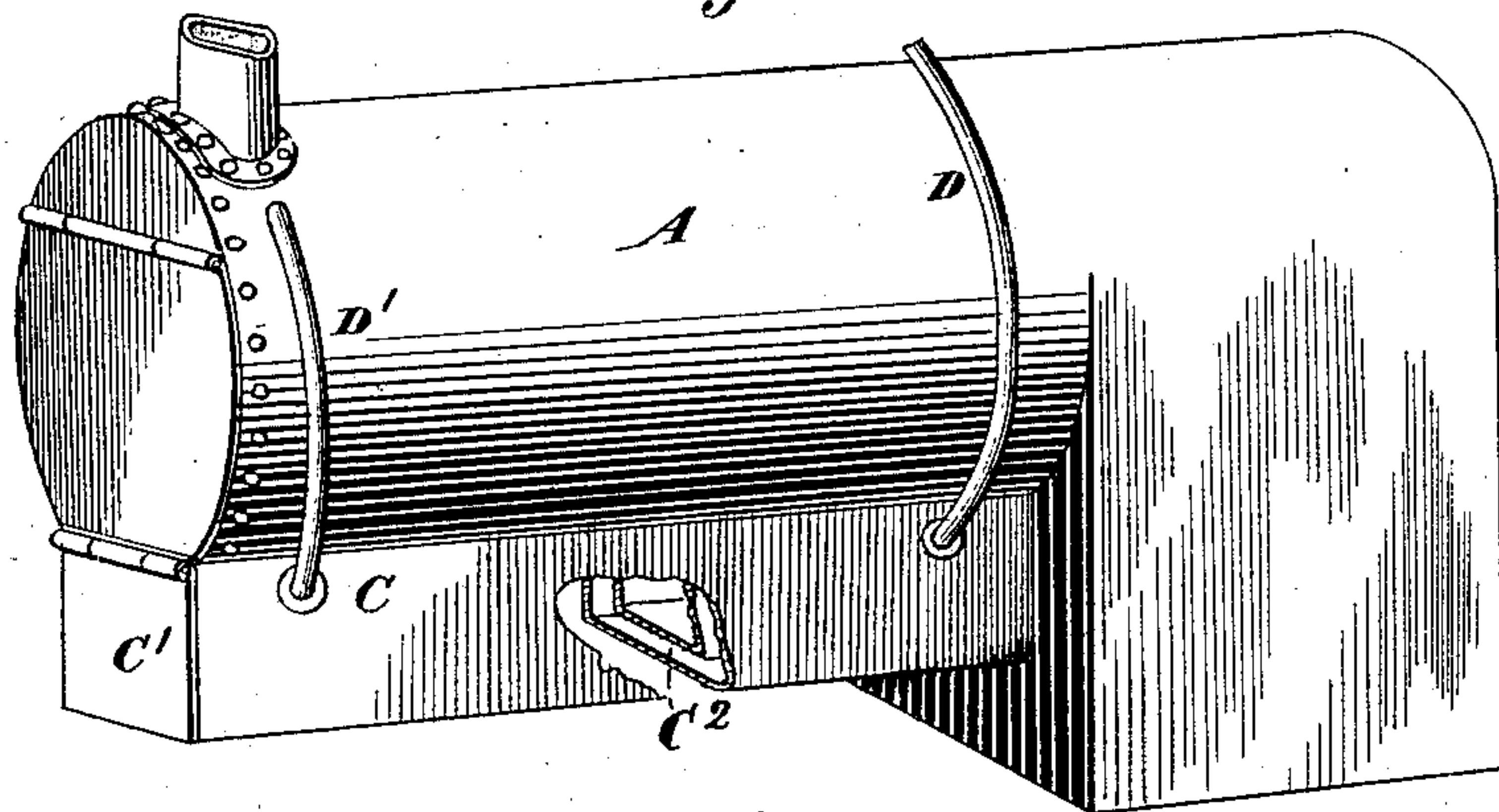


Fig. 2.

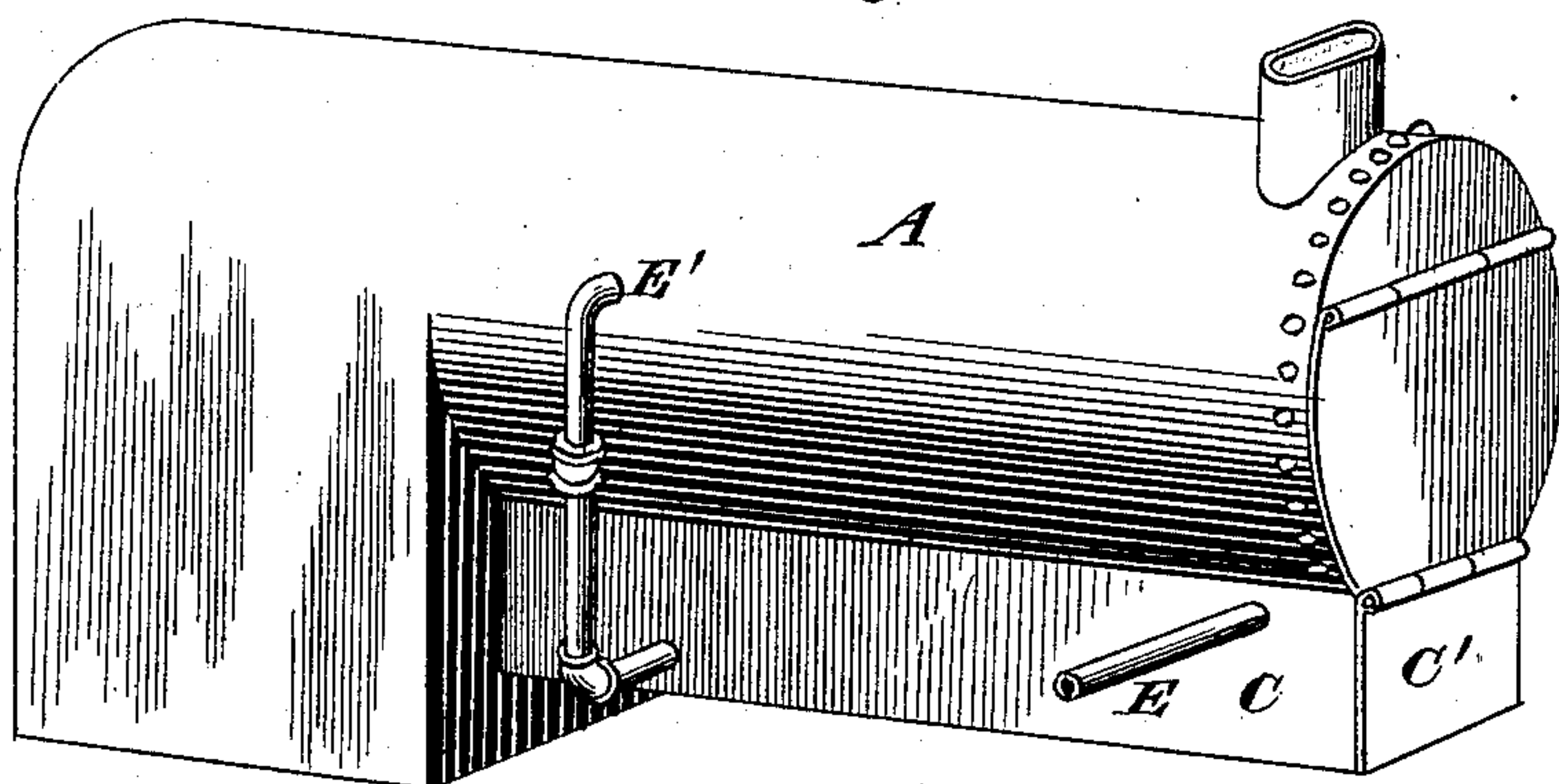
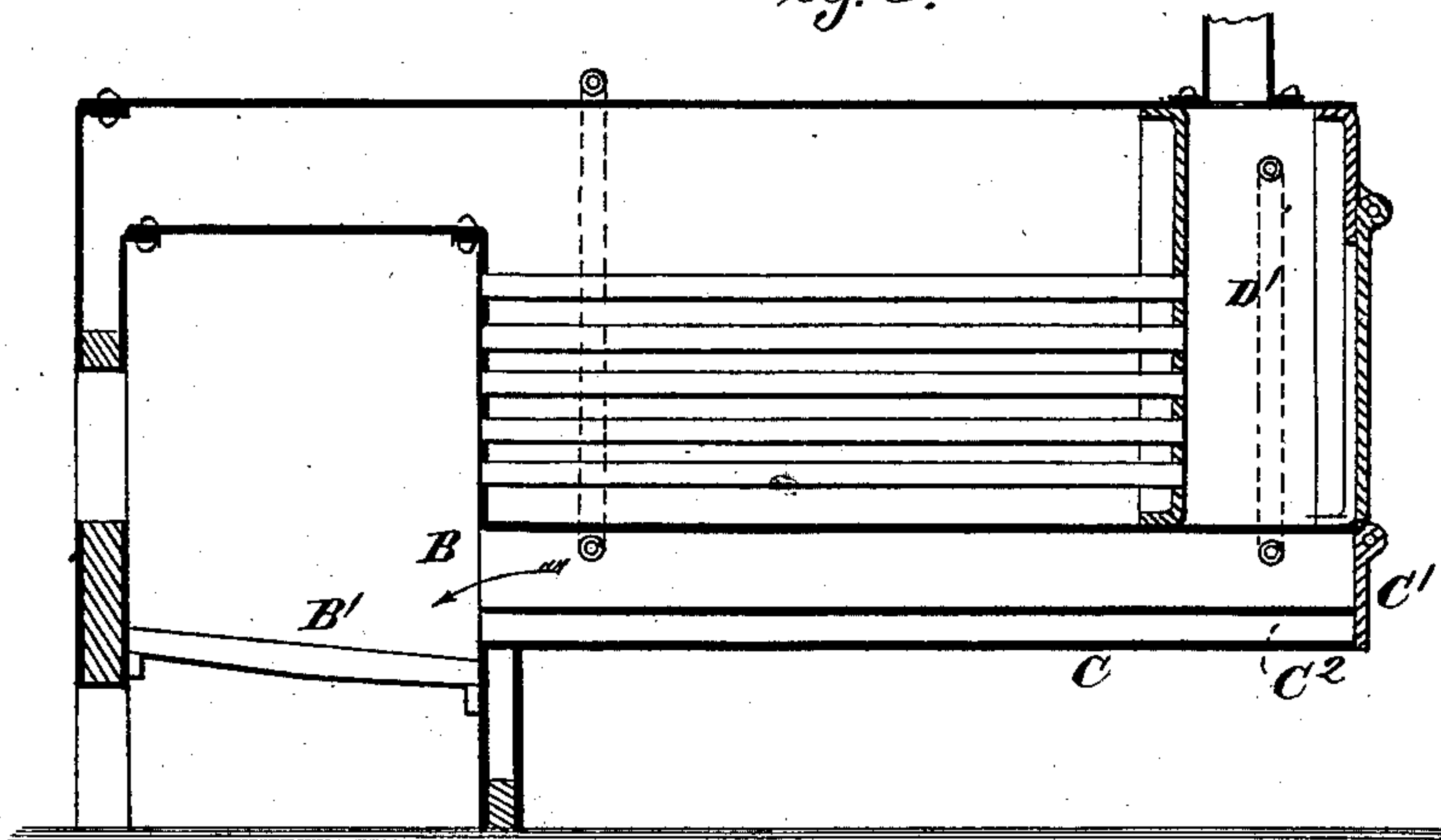


Fig. 3.



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DANIEL WILDE, OF WASHINGTON, IOWA.

STEAM-GENERATOR.

SPECIFICATION forming part of Letters Patent No. 275,449, dated April 10, 1883.

Application filed August 15, 1882. (No model.)

To all whom it may concern:

Be it known that I, DANIEL WILDE, a citizen of the United States, residing at Washington, in the county of Washington and State of Iowa, have invented certain new and useful Improvements in Steam-Generators, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention relates to any class of steam-boilers, whether vertical, horizontal, or locomotive, and may be applied to either stationary or semi-portable boilers.

The objects of my invention are—

First. To provide the means of feeding bagasse or crushed cane, or corustalks, straw, hay, tan-bark, sawdust, or other fuel in such a manner that the fuel will be fed to the furnace in back of the flame on its way to the smoke-stack. By placing the fuel back of the fire already in the furnace the fuel is more readily ignited.

Second. To provide a means of drying such fuel on its way to the furnace, which is done by means of a chamber surrounded in whole or in part by the heated air and smoke on its way to the chimney, or by the exhaust-steam, or by both jointly.

Third. To provide a chamber surrounding in whole or in part the fuel-chamber in which the exhaust-steam from the engine escapes and furnishes heat to dry the fuel in the inner chamber, and it may also be used as a feed-water heater.

I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved generator, showing the fire-box, the cylindrical portion, a part of the uptake, and the fuel-passage and the feed-water heater attached, with pipes for leading the exhaust-steam to and from it. Fig. 2 is a perspective view, showing the parts above named and the pipes for conducting the feed-water to and from the heater; and Fig. 3 is a longitudinal sectional elevation, showing the arrangement of the parts.

Similar letters refer to similar parts throughout the several views.

In constructing a steam-generator with my improvements applied thereto any of the well-known forms of generators may be employed, and it may be of any desired dimensions. The generator, designated by the letter A in the drawings, is of the usual construction, except that it has in the front portion of its leg an aperture, B, which is located somewhat above the grate-bars B', through which the fuel is passed into the furnace. In applying my improvements to this form of generator I provide an attachment, C, which is secured by bolts or otherwise to the lower surface of the cylindrical portion thereof. This attachment is of such length as to cause it to extend from the front of the legs to or about to the front end of the smoke-box, its width being proportioned to the dimensions of the generator and to the kind of fuel to be burned, it being necessary that its size should be increased when burning wet bagasse or straw beyond what it is when the fuel is dried before it is placed therein. The forward end of this attachment is provided with a door, C', through which the fuel is passed, a fork or any suitable implement being used for the purpose of inserting it. The upper surface of the passage may be the lower surface of the generator, and hence it will follow that considerable heat will be imparted to the fuel while it remains in the passage formed in it, the steam or vapor from which will be drawn into the fire-box, and will pass out through the tubes with the gases arising from the burning fuel. The side and bottom walls of the attachment are double, as shown at C² in Fig. 3, the space between which constitutes a chamber for the reception of exhaust-steam from the engine that may be connected with the generator, and for the reception of the feed-water to be heated by such steam before it enters the generator. The pipes D are for conducting steam from the engine, or from any other source to the heater, and the pipe D' is for conducting any that remains uncondensed to the uptake or elsewhere. For conducting the feed-water to the heater there is provided pipe E, which may be connected to a pump or other source of supply by which it will be injected into said heater, and after being circulated through it will pass through pipe E' to

the interior of the generator, pipe E' being a continuation of pipe E.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, 5 is—

1. A fuel chamber or passage connected to the generator, the upper part of said chamber being the lower surface of the generator, through which chamber the fuel is passed to 10 the front of the fire-box, substantially as and for the purposes set forth.

2. The combined water-heater and fuel-passage C, constructed substantially as described, whereby it is made to serve the double func-

tion of heating the feed-water and to some extent of drying the fuel previous to its entering the fire-box, as described. 15

3. The combination of the attachment C, containing the fuel-passage and feed-water heater, with the cylindrical portion of a steam-generator, substantially as and for the purpose set forth. 20

In testimony whereof I affix my signature in presence of two witnesses.

DANIEL WILDE.

Witnesses:

A. S. FOLGER,
MARY WILDE.